2020 ADVANCED DUI TRIAL ADVOCACY

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Useful DUI Studies

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Here is a summary of a lot of the HGN studies. Almost all of it was prepared by Phoenix PD vehicular crimes officers. I probably use Citeck's "Sleep Deprivation Does not Mimic Alcohol Intoxication on Field Sobriety Testing" study the most in trial.

NOTE: The Robustness Study by Burns has been pretty much disavowed.

Beth

HGN Validation Studies

Validation Studies on SFSTs at .10

Fort Lauderdale Study 1975

In the Ft. Lauderdale study, breath tests were administered to each traffic violator by research staff members, after police officers had completed their investigations of the violators. Officers failed to detect 78% of the DUI violators they investigated.

- Only 22% of traffic violators with BAC between 0.10 and 0.20 were arrested for DUI
- This study is the reason NHTSA developed the HGN SFT studies

California Study 1977

Southern California Research Institute (SCRI), directed by Dr. Marcelline Burns, was tasked with developing Field Sobriety Tests that could increase the ability of police officers to remove impaired drivers from the roadway. Three tests had a high reliability for distinguishing BAC over .10. These three tests could show BAC over .10%.

- Study funded by NHTSA
- Looked at 6 different Field Sobriety Tests
- 3 tests had a high reliability for distinguishing BAC over .10
  - HGN / 77%
  - WAT / 68%
  - OLS / 65%
  - Combining the results of HGN & WAT / 80%
- Tests were standardized and systematic
- Study was in a controlled environment
  - Inside a building with controlled lighting and climate
- Officers had 4 hrs of new training on the 3 standardized FST prior to testing

California Study 1981 (Lab & Field)

Southern California Research Institute, directed by Dr. Marcelline Burns, conducted the second part of the Standardized Field Sobriety Testing. SCRI had shown that the Standardized Field Sobriety Tests were a highly reliable battery of tests for distinguishing BAC above 0.10% in Lab conditions. This study was conducted to validate the Standardized Field Sobriety Tests as being valid in the Field. The tests were determined to discriminate in the field, as well as in the Lab. The result of the study validated the SFST.

- Standardize the administration and scoring procedures for the three test battery
- Validate three test battery in field conditions
- Officers were able to classify 81% of the test subjects with respect to whether their BAC was above or below .10% level

Maryland, District of Columbia, Virginia, North Carolina 1983 (Field Study)

Southern California Research Institute, directed by Dr. Marcelline Burns, conducted tests to determine if environment conditions could affect the reliability of the Standardized Field Sobriety Test. It was shown that adverse weather conditions had no effect on the Standardized Field Sobriety Test. The tests were determined to discriminate in the field to determine if the BAC was above or below .10%.

- Validate three test battery in field conditions
- Standardize the administration and scoring procedures for the three test battery

Colorado 1995

Dr. Burns and the SCRI revealed that snow, cold, and slightly sloped sidewalks did not affect the officer's ability to make the correct arrest decision. Seven agencies were involved. Observers were in half the police vehicles. These observers were SFST trained. They were there to ensure SFSTs were done correctly. These observers also tested people who were released. The study revealed that officers using SFST battery, **made the correct arrest decision 93% of the time**. This was corroborated by a breath test.

- First study using experienced Law Enforcement officers who were trained in using FST
- All 3 standardized tests were used
  - HGN
  - WAT
  - OLS

- Correct arrest decision was made 93% of the time
- It was concluded that the 3 standardized FST are valid tests. They serve to show presence of alcohol impairment levels
- Officers were more likely to err on the side of releasing impaired drivers than on the side of incorrectly arresting non-impaired drivers

Validation Studies on SFSTs at .08

<u>Florida 1997</u>

Dr. Burns, and the Southern California Research Institute (SCRI). The study used officers with an average of 9.5 yrs experience, who conducted the 3 standardized test battery, and who followed the NHTSA guidelines. The study demonstrated that **95% of the officers' decisions to arrest drivers were correct** using 0.08 as legal intoxication. Again, some of those released were intoxicated, but the officers gave them the benefit of the doubt. Dr. Burns states that overwhelmingly, when officers err, they err by releasing intoxicated individuals and not by arresting sober individuals.

- 3 standardized test battery
  - HGN
  - WAT
  - OLS
- 3 standardized tests discriminated at alcohol levels below .10
- 3 battery of standardized tests is scientifically validated and reliable method for discriminating between impairment and unimpaired drivers
- Based on battery of 3 standardized tests, a correct decision to arrest was made 95% of the time
- Validated 3 test battery of standardized tests can be used by officers to show impairment at .08.

<u>San Diego 1998</u>

Dr. Burns and the SCRI used trained officers in this study using the SFST battery. The study revealed that the officers **made the correct arrest decision 91% of the time**. In this study there were no observers riding with the officers and the officers were allowed to use portable breath test devices (PBTs).

- 3 standardized test battery did discriminate at BAC below .10%
- 3 standardized test battery
  - HGN
  - WAT
  - OLS
- HGN is the most reliable of the 3 standardized tests
- Percentage give to FST

        - HGN: 88%
        - WAT: 79%
        - OLS: 83%
    - Study provided the first indications supporting arrest decision at .08.

Other Studies & Materials

["***The Robustness of Horizontal Gaze Nystagmus Test"***, Dr. Marcelline Burns (Southern California Research Institute), September, 2007. NOTE: this study has been removed from the HGN curriculum. It was not peer reviewed and there were problems with its administration. It was not a validation study and the fact that it once was, but is no longer, used in the HGN curriculum does not invalidate HGN or call into question the continued validity of HGN.]

"The Visual Detection of DWI Motorists" US Department of Transportation, DOT HS 808 677 (NHTSA Impaired Driving Cues)

Problems Maintaining Proper Lane Position

Weaving, weaving across lanes, straddling a lane line, swerving, turning with a wide radius, drifting, almost striking a vehicle or other object

Speed and Braking Problems

Stopping problems (too far, too short, or too jerky), accelerating or decelerating for no apparent reason, varying speed, slow speed (10+ under speed limit)

Vigilance Problems

Driving in opposing lanes or wrong way on one-way, slow response to traffic signals, slow or failure to respond to officer's signals, stopping in lane for no apparent reason, driving without headlights at night, failure to signal or signal is inconsistent with action

Judgment Problems

Following too closely, improper or unsafe lane change, illegal or improper turn, (too fast, too slow, or too jerky), driving on other than designated roadway, stopping inappropriately in response to officer, inappropriate or unusual behavior (throwing, arguing, etc.), appearing to be impaired.

Study: Nystagmus Testing in Intoxicated Individuals: Dr. Karl Citek, et. al, November 2003.

Dr. Citek, who is an ophthalmologist, and recognized expert in the field of HGN, conducted a study testing HGN and VGN at different positions: standing, seated, and supine. He confirmed the validity of the HGN test in the standing posture to discriminate blood alcohol levels of .08 and .10. He also established, with similar accuracies and reliabilities, the use of the HGN test in the seated and supine postures. There was a statistical difference in the observation of HGN based on test posture. The difference happened in the seated position and was attributed to the difficulty of seeing

the eyes. If officers have to conduct the HGN in the seated position, it is recommended that they position the subject in such a way that the subject's eyes can be seen easily throughout the test. This may involve asking the subject to turn the body slightly at the waist, in addition to the head turn used in the current study. Such a minor change in posture will not affect the result. They also confirmed that VGN is present only when signs of HGN are present, and that the VGN test can be used to identify high levels of impairment at any test posture.

Study: Sleep Deprivation Does not Mimic Alcohol Intoxication on Field Sobriety Testing: Dr. Karl Citek et. al, October, 2011.

Subjects participated in two test sessions: one after a full night's rest and the other after staying awake for at least 24 hours. Subjects consumed set amounts of alcohol during each session. Law enforcement officers conducted the standardized field sobriety tests. Researchers also measured clinical responses of visual function and vital signs. The presence and number of validated impairment clues increased with increasing blood alcohol concentration but not with sleep deprivation. The study concluded sleep deprivation alone does not affect motor skills in a manner that would lead an officer to conclude that the suspect is intoxicated. Intoxication must also be present.